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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/632,637	07/31/2003	Wyatt Thomas Riley	020293	2763

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EXAMINER
NGUYEN, TU X

ART UNIT	PAPER NUMBER
2618	

NOTIFICATION DATE	DELIVERY MODE
11/01/2007	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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Office Action Summary	Application No.	Applicant(s)	
	10/632,637	RILEY, WYATT THOMAS	
	Examiner	Art Unit	
	Tu X. Nguyen	2618	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *09 October 2007*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-71* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☒ Claim(s) *71* is/are allowed.

6)☒ Claim(s) *1-70* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *31 July 2003* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Response to Amendment

Applicant's arguments filed 10/09/07 have been fully considered but they are but moot in view of the previous ground(s) of rejection.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1-9,11-13,14-24,27-31, 33-38, 43-58 and 61-70, are rejected under 35 U.S.C. 102(e) as being anticipated by King et al. (US Patent 6,445,927).

Regarding claims 1, 24 and 47, King et al. disclose a method comprising:

receiving signals from a satellite navigation system and signals from a wireless communication system (see col.9 lines 24-25 and lines 39-40); and

determining a position solution for a mobile unit (see col.3 lines 47-60) as a function of the received signals using a common system synchronization bias (see col.8 lines 36-59, see fig.6, element 628, "time bias offset" is the time difference between GPS time and terrestrial system, corresponds to "common system synchronization bias") that defines a difference between a system time for the satellite navigation system and a system time for the wireless communication

system (col.9 lines 10-31), wherein the wireless communication system comprises more than one base station (see col.1 lines 10-12, col.1 line 65 through col.2 line 11).

Regarding claims 2, 48, 52, 62 and 66, King et al. disclose computing the system time for the satellite navigation system (see col.3 lines 1-4); computing the system time for the wireless communication system as a function of the computed system time of the satellite navigation system and the synchronization bias (see col..3 lines 1-15); and computing a position solution as a function of the received signals and the computed system times (see col.3 lines 47-60).

Regarding claims 3, 27, 43 and 51, King et al. disclose the synchronization bias constrains the system time of the wireless communication system within a range of time from the system time of the satellite navigation system (see col.6 lines 22-27).

Regarding claims 4, 28, 36, 44, 52 and 63 King et al. disclose the synchronization bias defines an expected time offset between the system time for the satellite navigation system and the system time for the wireless communication system (see col.3 lines 14-15).

Regarding claims 5, 29, 45 and 53, King et al. disclose computing a position solution comprises computing a latitude, a longitude and an altitude for the mobile unit (see col.1 lines 35-36 "ephemeris data" is inherent included latitude, longitude and altitude information).

Regarding claims 6 and 54, King et al. disclose the satellite navigation system comprises a Global Positioning System (GPS) (see fig.6).

Regarding claims 7, 30 and 55, King et al. disclose computing a position solution comprises applying hybrid position calculation techniques to compute the position solution as a function of the signals received from the satellite navigation system and the signals received from

the wireless communication system (see col.2 lines 59-65, three TOA measurements arriving at the MS from a BS corresponds to hybrid position).

Regarding claims 8, 31 and 56, King et al. disclose computing a position solution comprises applying asynchronous techniques to compute the system times in accordance with the synchronization bias (see col.2 line 1 through col.3 line 15).

Regarding claims 9, 35 and 57, King et al. disclose receiving data from a component of the wireless communication system that defines the synchronization bias (see col.9 lines 24-25).

Regarding claim 11, King et al. disclose receiving a total of M signals from the wireless communication system and the satellite navigation network; generating M distance measurements from the signals; and detecting the presence of one or more erroneous distance measurements from one or more of the signals based on the M distance measurements and the synchronization bias (see col.4 lines 5-65).

Regarding claims 12-13 and 33-34, King et al. disclose wherein M>4 (see col.4 lines 51-65).

Regarding claim 15, King et al. disclose a method comprising: receiving a request from a mobile unit operating within an environment having a satellite navigation system and a wireless communication system, wherein the wireless communication system comprises more than one base station (see col.1 lines 10-12, col.1 line 65 through col.2 line 11); and communicating to the mobile unit, in response to the request, system synchronization bias data that constrains a system time of the satellite navigation system as a function of a system time of the wireless communication system (see col.8 lines 35-61; and computing, a position solution for a the mobile unit as a function of the common system synchronization bias data (see col.7 lines 64-65).

Regarding claim 16, King et al. disclose retrieving the synchronization bias data from a database (see col.3 lines 47-52).

Regarding claim 17, King et al. disclose 17 retrieving from a database comprises retrieving from a database a synchronization bias specific to the requesting mobile unit (see col.9 lines 15-30).

Regarding claim 18, King et al. disclose identifying a current region of the wireless communication system for the requesting mobile unit; and retrieving the data from the database based on the identified region (see col.9 lines 15-30).

Regarding claim 19, King et al. disclose 19 receiving data from the mobile unit that describes a computed synchronization bias; and updating the database based on the received data (see col.3 lines 47-60).

Regarding claims 20-23, King et al. disclose comparing the computed synchronization bias to a threshold bias (see col.3 lines 44-45).

Regarding claim 37 King et al. disclose the processor comprises a digital signal processor (see col.3 lines 16-24).

Regarding claim 38 King et al. disclose a system comprising:

a server (see col.3 lines 46-51) to store common system synchronization bias data that defines a difference between an average system time for a satellite navigation system and a system time for a wireless communication system (see col.8 lines 36-61), wherein the wireless communication system comprises more than one base station (see col.1 lines 10-12, col.1 line 65 through col.2 line 11); and

a device to receive the common system synchronization bias data from the server, and determine a position solution as a function of the common synchronization bias data and signals received from the satellite navigation system and the wireless communication system (see col.3 lines 47-60).

Regarding claim 46 King et al. disclose the device comprises one of a mobile unit (see fig.6), a location server, a Position Determination Entity PDE, a Location Measuring Unit LMU, a Serving Mobile Location Centers SMLC (see par.035), a Wireless Location Gateway WLG, and a Mobile Location Center MLC.

Regarding claims 50 and 58 King et al. disclose a computer-readable medium comprising instructions to cause a processor to determine a position solution for a mobile unit as a function of signals received from a satellite navigation system, signals received from a wireless communication system, and a common system synchronization bias that defines a difference between system times for the satellite navigation system and the wireless communication system (see col.8 lines 36-61, the time bias offset method is inherently including a computer-readable medium and instructions to perform the described function), wherein the wireless communication system comprises more than one base station (see col.1 lines 10-12, col.1 line 65 through col.2 line 11).

Regarding claims 61 and 64, King et al. disclose a method comprising:

receiving sets of position related measurements for a device, the measurements of each of the sets having a common system bias (see fig.6, element 628, col.9 lines 10-15) with respect to the measurements of the other set; and computing a position solution for the device as a function of the measurements and the common bias (see col.8 lines 36-61), wherein the wireless

communication system comprises more than one base station (see col.1 lines 10-12, col.1 line 65 through col.2 line 11).

Regarding claim 62, King et al. disclose receiving sets of position related measurements comprises receiving a first set of position related measurements from a satellite navigation system and a second set of position related measurements from a wireless communication system (see col.2 line 59 through col.3 line 15).

Regarding claim 63, King et al. disclose the common bias represents a difference in system times for the satellite navigation system and the wireless communication system (see col.2 line 59 through col.3 line 15).

Regarding claims 64 and 70, King et al. disclose a method comprising: receiving sets of position related measurements for a device from a plurality of systems; determining different system times for each of the systems; and determining a position solution for the device as a function of the measurements and the system times (see col.2 line 59 through col.3 line 15, "base stations" and "satellite system" corresponds to plurality of systems).

Regarding claim 65, King et al. disclose the measurements of each of the sets having a common bias with respect to the measurements of the other set (see col.2 line 59 through col.3 line 15).

Regarding claims 67-69, King et al. disclose receiving sets of position related measurements comprises receiving a first set of position related measurements from a satellite navigation system and a second set of position related measurements from a wireless communication system (see col.2 line 59 through col.3 line 15) wherein one of the system times is an average system time (see col.8 lines 36-61).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 25-26, 41-42, are rejected under 35 U.S.C. 103(a) as being unpatentable over King et al. (US Patent 6,445,927) in view of Bruner et al. (US Pub. 2003/0236818).

Regarding claims 25 and 41, King et al. disclose the satellite navigation system comprises a Global Positioning System (GPS); however, King et al. fail to disclose the wireless communication system comprises a Code Division Multiple Access (CDMA) wireless communication system.

In the related art, a method of determine location of a mobile unit by a method of TDOA or EOTD in combination with GPS, Bruner et al. disclose the wireless communication system comprises a Code Division Multiple Access (CDMA) wireless communication system (see par.039). Therefore, It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the system of King et al. with the above teaching of Bruner et al. in order to provide a service based navigation system that can handle different types of client devices.

Regarding claims 26 and 42, the modified King et al. disclose the apparatus comprises a mobile GPS receiver (see King et al., fig.6).

Claims 10, 14 and 32, are rejected under 35 U.S.C. 103(a) as being obvious over King et al. in view of Sheynblat et al. (US Patent 6, 707,422).

Regarding claims 10 and 14, King et al. fail to disclose applying an altitude-aiding technique to determine an extra measurement for use in determining the position solution.

Sheynblat et al. disclose applying an altitude-aiding technique to determine an extra measurement for use in determining the position solution (see col.16 lines 53-55). Therefore, It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the system of King et al. with the above teaching of Sheynblat et al. in order to provide measurement in a line of sight environment.

Regarding claim 32, King et al. fail to disclose Receiver Autonomous Integrity Monitoring (RAIM).

Sheynblat et al. disclose Receiver Autonomous Integrity Monitoring (RAIM) (see col.17 lines 16-20). Therefore, It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the system of King et al. with the above teaching of Sheynblat et al. in order to provide the fault detection and isolation process.

Claims 39-40 and 59-60, are rejected under 35 U.S.C. 103(a) as being obvious over King et al.

Regarding claims 39-40 and 59-60, King et al. fail to disclose the server selectively retrieves synchronization bias data from a database based on an identifier for the device. The Examiner takes an Official notice is taken that the concept providing information to an identified

mobile terminal is well known in the art. It would have been obvious the system transmit information point-to-point a each of terminal based on a terminal identification.

Allowable Subject Matter

Claim 71 is allowed.

The following is a statement of reasons for the indication of allowable subject matter:

Regarding claim 71, the prior art fails to teach "wherein the synchronization bias constrains the system time of the wireless communication system within a range of time from the system time of the satellite navigation system, and the synchronization bias defines an expected time offset between the system time for the satellite navigation system and the system time for the wireless communication system, and wherein the processor generates M distance measurements from the signals, and applies Receiver Autonomous Integrity Monitoring (RAIM) to detect the presence of one or more erroneous distance measurement from one or more of the signals based on the M distance measurements and the synchronization bias", as cited in the claim.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed Tu Nguyen whose telephone number is 571-272-7883.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Edward Urban, can be reached at (571) 272-7899. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

October 23, 2007